

Safety First – The Efficacy of Spinal Therapies in the Geriatric Population

Anthony Dantel

Overview

1. Why is this relevant?
2. Red Flags
3. Characteristics of the Ageing Spine
4. Exercise Intervention
5. Manual Therapy Interventions
6. Exercise and Manual Therapy Combined.
7. Adverse Events
8. General Themes from the Literature
9. Take Home Message

Meet Joan

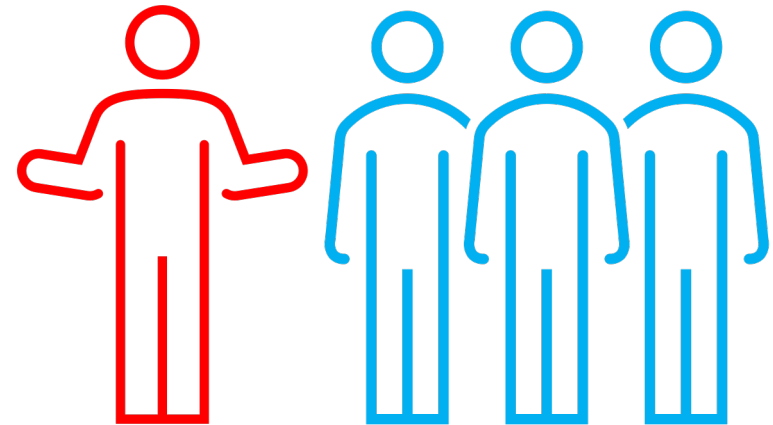


*'What can physiotherapy do for me,
I'm too old'*

Why else is this relevant?

- **25% of Australians over the age of 65 report having spinal pain** (Australian Institute of Health and Welfare, 2025).
- **Significant contributor to:**
 - Reduced ability to participate in ADLs.
 - Diminished independence.
 - Increased risk of falls.
 - Risk of polypharmacy.
 - Overall reduction in QoL

(Goertz et al., 2017)



Red Flags

Medical Screening for Red Flags in the Diagnosis and Management of Musculoskeletal Spine Pain

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Red flags to screen for malignancy and fracture in patients with low back pain: systematic review

 OPEN ACCESS

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Red Flags

Osteoporosis:

- Pathological loss of bone mineral density
- Known risk factor for vertebral fragility fracture
- Occurs in 21% of the world's elderly population (Salari et al., 2021)
- 25% of 60–69-year-olds ; 38% of 70–79-year-olds

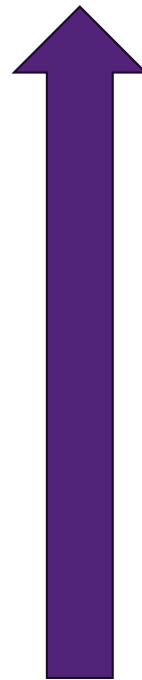
Spinal Metastases:

- Increased risk of pathological bone weakening
- Secondary spinal mets most commonly occur post lung, prostate and breast Ca.
- **'History of Cancer'** = 7– 33% probability of the presence of spinal metastases
- Age, unexplained weight loss and failure to improve = < 3% probability. (Downie et al. 2013)

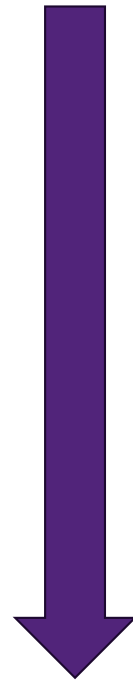
Characteristics of the ageing spine



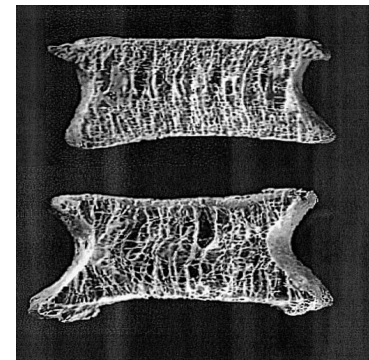
(Bellitti et al., 2021)



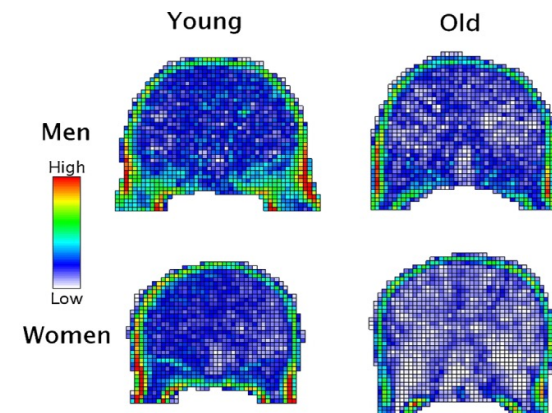
Degenerative
Changes



Bone Mineral
Density

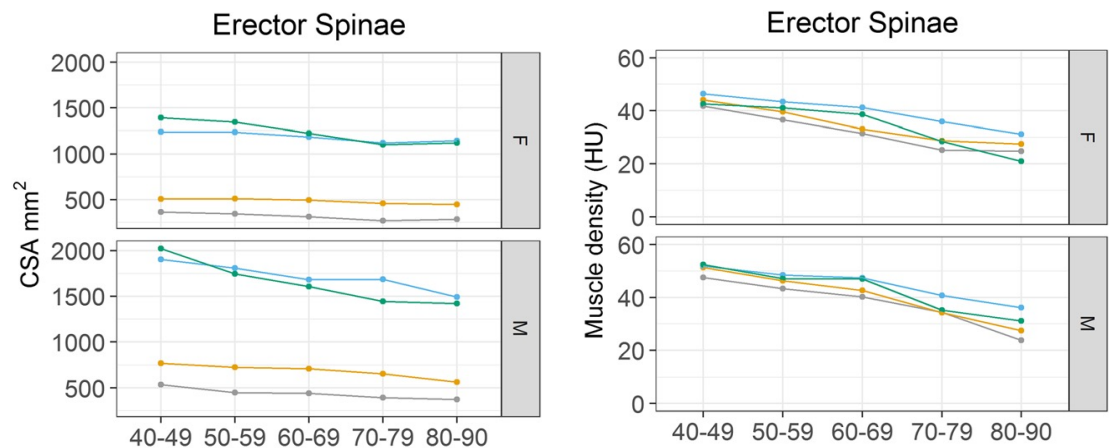


(Ferguson & Steffen, 2003)



(Christiansen et al., 2011)

Characteristics of the ageing spine cont.

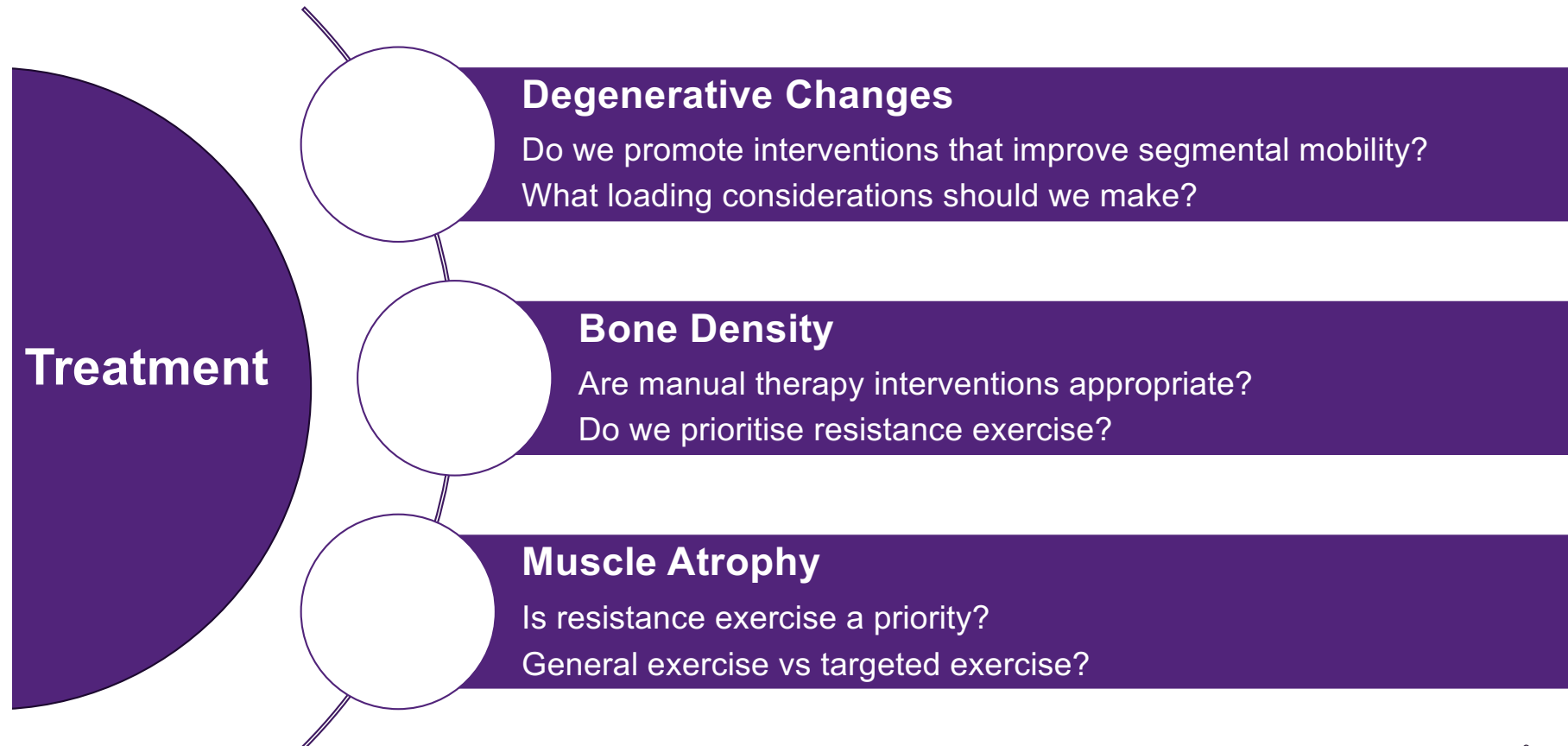


(Johannesdottir et al., 2018; Huang et al 2022)).

Changes in musculature is more prevalent in the symptomatic population!

Changes results in reduced capacity for the muscles to support the spine, poorer physical function and contribute to nociception.

Do these characteristics influence treatment?



Exercise



Resistance training regime can improve pain and function



Pilates may improve pain but may not improve disability/function

Exercise Cont.

Increased adherence
to exercise

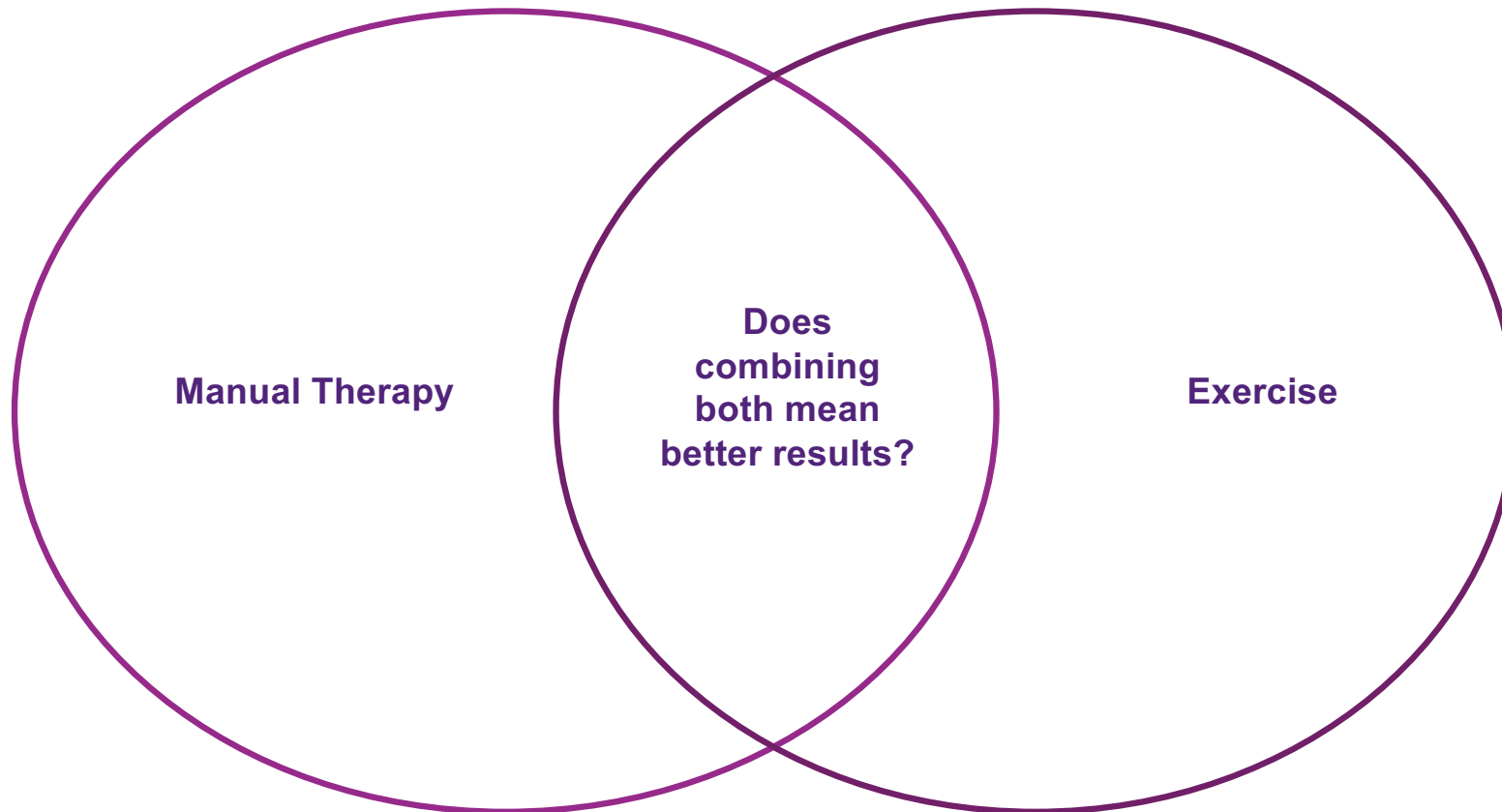


Significant
improvements in self-
reported pain and
function

Manual Therapy

- HVLA thrust techniques comparable to LVVA mobilisation techniques in pain and disability reduction for lumbar back pain (Hondras 2009; Learman 2013)
- Manual therapy is not more effective than placebo (Dougherty, 2014)
- Limited evidence regarding duration or dosage (Hondras 2009) .
- Massage improves immediate pain and disability – no lasting effect post treatment (de Luca, 2017).
- Sparse literature exclusively investigating manual therapy in cervical or thoracic spinal pain in older adults.

What if we combine the two...?



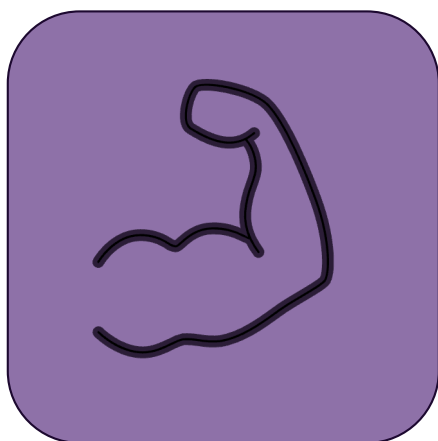
Adverse Events



Very low numbers of reported 'serious' adverse events in both exercise and manual therapy interventions

High numbers of 'mild' adverse events in both intervention groups.

Other themes...



Take Home Message

1. Manual therapy interventions INCLUDING high velocity thrust techniques appear safe and useful for short-term pain management.
2. High velocity low amplitude AND low velocity mobilisations are comparable!
3. High and low intensity exercise appears to improve pain, but not necessarily function.
4. Adherence to exercise is key.
5. Short-term combination of manual therapy and exercise is better than one or the other alone.

Thank you

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